

CLAIMS

1. A method of assigning values to one or more configuration parameters of a first entity associated with a communications network, wherein the entity is a member of a hierarchy of entity groups, the communications network comprising a computer-readable medium, the method comprising acts of:

(a) retrieving from the computer-readable medium a plurality of sets of configuration parameters for configuring a network device of the communications network, wherein each set corresponds to either the entity or one of the entity groups, and wherein for each set, for one or more configuration parameters, the set defines a value for the configuration parameter; and

(b) combining the plurality of sets of configuration parameters to produce an entity profile for the first entity, wherein the entity profile comprises one or more configuration parameters and comprises, for each parameter, a corresponding value assigned from one of the plurality of sets of configuration parameters.

2. The method of claim 1, further comprising an act of:

(c) configuring the network device of the communications network using the entity profile.

3. The method of claim 1, wherein the act of combining comprises:

for each of the one or more configuration parameters, assigning a value from one of the plurality of configuration sets to the configuration parameter.

4. The method of claim 1, wherein the hierarchy is an administrative hierarchy, and each entity group is a group of administrative entities.

5. The method of claim 1, wherein the hierarchy is a network device hierarchy, and each entity group is a group of network devices.

6. The method of claim 1, wherein the hierarchy is a network user hierarchy, and each entity group is a group of network users.

7. The method of claim 1, wherein a first combining procedure is accessible on the communications network, the first combining procedure defining a procedure by which to combine the plurality of sets of configuration parameters, and wherein act (b) further comprises:

combining the plurality of sets of configuration parameters in accordance with the combining procedure.

8. The method of claim 7, wherein a plurality of combining procedures, comprising the first combining procedure, are available on the communications network, and the method further comprises an act of:

(c) selecting the first combining procedure from the plurality of combining procedures.

9. The method of claim 7, wherein the first combining procedure specifies one or more of the entity groups for which corresponding sets of configuration parameters are not to be combined, and wherein act (b) further comprises:

refraining from combining one or more sets of configuration parameters, each of the one or more sets corresponding to one of the entity groups specified by the first combining procedure.

10. The method of claim 7, wherein a first of the plurality of sets of configuration parameters corresponds to a highest entity group of the hierarchy, and wherein act (b) comprises:

combining the plurality of sets of configuration parameters in accordance with the hierarchy, starting with the first set of configuration parameters.

11. The method of claim 1, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being a final value for the first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

accessing the first set of configuration parameters;

assigning the first value to the first configuration parameter and marking the first value

as a final value for the first configuration parameter;

accessing the second set of configuration parameters; and

refraining from assigning the second value to the first configuration parameter in response to the first value being marked as the final value for the first configuration parameter.

12. The method of claim 1, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being aggregable, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

accessing the first set of configuration parameters;

assigning the first value to the first configuration parameter and marking the first value as aggregable;

accessing the second set of configuration parameters; and

in response to the first value being marked as aggregable, aggregating the second value to the first value to produce an aggregated value and assigning the aggregated value to the first configuration parameter.

13. The method of claim 1, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

accessing the first set of configuration parameters;

assigning the first value to the first configuration parameter;

accessing the second set of configuration parameters; and

overriding the first value by assigning the second value to the first configuration parameter.

14. The method of claim 1, wherein the entity is a telephony communications device that is part of the communications network.

15. The method of claim 1, wherein the entity is a user of a network device that is part of the communications network.

16. The method of claim 1, wherein the plurality of sets of configuration parameters are stored in a relational database on the computer-readable medium, and act (a) comprises:

accessing the relational database to retrieve the plurality of sets of configuration parameters.

17. A system for assigning values to one or more configuration parameters of a first entity associated with a communications network wherein the entity is a member of a hierarchy of entity groups, the communications network comprising a computer-readable medium, the system comprising:

a configuration management module comprising one or more inputs to receive from the computer-readable medium a plurality of sets of configuration parameters for configuring a network device of the communications network, wherein each set corresponds to either the entity or one of the entity groups, and wherein for each set, for one or more configuration parameters, the set defines a value for the configuration parameter, logic to combine the plurality of sets of configuration parameters to produce an entity profile for the first entity, wherein the entity profile comprises one or more configuration parameters and comprises, for each parameter, a corresponding value assigned from one of the plurality of sets of configuration parameters, and an output to output the entity profile.

18. The system of claim 17, wherein the logic of the configuration management module is further operative to configure the network device of the communications network using the entity profile.

19. The system of claim 17, wherein the logic of the configuration management module is further operative, for each of the one or more configuration parameters, to assign a value from one of the plurality of configuration sets to the configuration parameter.

20. The system of claim 17, wherein the hierarchy is an administrative hierarchy, and each entity group is a group of administrative entities.

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21. The system of claim 17, wherein the hierarchy is a network device hierarchy, and each entity group is a group of network devices.

22. The system of claim 17, wherein the hierarchy is a network user hierarchy, and each entity group is a group of network users.

23. The system of claim 17, wherein a first combining procedure is accessible on the communications network, the first combining procedure defining a procedure by which to combine the plurality of sets of configuration parameters, and wherein the logic of the configuration management module is further operative to combine the plurality of sets of configuration parameters in accordance with the combining procedure.

24. The system of claim 23, wherein a plurality of combining procedures, comprising the first combining procedure, are available on the communications network, and the logic of the configuration management module is further operative to select the first combining procedure from the plurality of combining procedures.

25. The system of claim 23, wherein the first combining procedure specifies one or more of the entity groups for which corresponding sets of configuration parameters are not to be combined, wherein the logic of the configuration management module is further operative to refrain from combining one or more sets of configuration parameters, each of the one or more sets corresponding to one of the entity groups specified by the first combining procedure.

26. The system of claim 23, wherein a first of the plurality of sets of configuration parameters corresponds to a highest entity group of the hierarchy, and wherein the logic of the configuration management module is further operative to combine the plurality of sets of configuration parameters in accordance with the hierarchy, starting with the first set of configuration parameters.

27. The system of claim 17, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being a final value for the first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter,

wherein the logic of the configuration management module is further operative to access the first set of configuration parameters, to assign the first value to the first configuration parameter and mark the first value as a final value for the first configuration parameter, to access the second set of configuration parameters, and to refrain from assigning the second value to the first configuration parameter in response to the first value being marked as the final value for the first configuration parameter.

28. The system of claim 17, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being aggregable, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter,

wherein the logic of the configuration management module is further operative to access the first set of configuration parameters, to assign the first value to the first configuration parameter and mark the first value as aggregable, to access the second set of configuration parameters, and, to aggregate, in response to the first value being marked as aggregable, the second value to the first value to produce an aggregated value and to assign the aggregated value to the first configuration parameter.

29. The system of claim 17, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter,

wherein the logic of the configuration management module is further operative to access the first set of configuration parameters, to assign the first value to the first configuration parameter, to access the second set of configuration parameters, and to override the first value by assigning the second value to the first configuration parameter.

30. The system of claim 17, wherein the entity is a telephony communications device that is part of the communications network.

31. The system of claim 17, wherein the entity is a user of a network device that is part of the communications network.

32. The system of claim 17, wherein the plurality of sets of configuration parameters are stored in a relational database on the computer-readable medium, and wherein the logic of the configuration management module is further operative to access the relational database to retrieve the plurality of sets of configuration parameters.

33. A system for assigning values to one or more configuration parameters of a first entity associated with a communications network wherein the entity is a member of a hierarchy of entity groups, the communications network comprising a computer-readable medium, the system comprising:

means for retrieving from the computer-readable medium a plurality of sets of configuration parameters for configuring a network device of the communications network, wherein each set corresponds to either the entity or one of the entity groups, and wherein for each set, for one or more configuration parameters, the set defines a value for the configuration parameter; and

means for combining the plurality of sets of configuration parameters to produce an entity profile for the first entity, wherein the entity profile comprises one or more configuration parameters and comprises, for each parameter, a corresponding value assigned from one of the plurality of sets of configuration parameters.

34. The system of claim 33, further comprising:

means for configuring the network device of the communications network using the entity profile.

35. The system of claim 33, wherein the means for combining comprises:

means for assigning, for each of the one or more configuration parameters, a value from one of the plurality of configuration sets to the configuration parameter.

36. The system of claim 33, wherein the hierarchy is an administrative hierarchy, and each entity group is a group of administrative entities.

37. The system of claim 33, wherein the hierarchy is a network device hierarchy, and each entity group is a group of network devices.

38. The system of claim 33, wherein the hierarchy is a network user hierarchy, and each entity group is group of network users.

39. The system of claim 33, wherein a first combining procedure is accessible on the communications network, the first combining procedure defining a procedure by which to combine the plurality of sets of configuration parameters, and wherein the means for combining further comprises:

means for combining the plurality of sets of configuration parameters in accordance with the combining procedure.

40. The system of claim 39, wherein a plurality of combining procedures, comprising the first combining procedure, are available on the communications network, and the system further comprises:

means for selecting the first combining procedure from the plurality of combining procedures.

41. The system of claim 39, wherein the first combining procedure specifies one or more of the entity groups for which corresponding sets of configuration parameters are not to be combined, and the means for combining further comprises:

means for refraining from combining one or more sets of configuration parameters, each of the one or more sets corresponding to one of the entity groups specified by the first combining procedure.

42. The system of claim 39, wherein a first of the plurality of sets of configuration parameters corresponds to a highest entity group of the hierarchy, and wherein the means for combining comprises:

means for combining the plurality of sets of configuration parameters in accordance with the hierarchy, starting with the first set of configuration parameters.

43. The system of claim 33, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being a final value for the first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter,

means for accessing the first set of configuration parameters;
means for assigning the first value to the first configuration parameter;
means for accessing the second set of configuration parameters; and
means for overriding the first value by assigning the second value to the first configuration parameter.

46. The system of claim 33, wherein the entity is a telephony communications device that is part of the communications network.

47. The system of claim 33, wherein the entity is a user of a network device that is part of the communications network.

48. The system of claim 33, wherein the plurality of sets of configuration parameters are stored in a relational database on the computer-readable medium, and the means for retrieving comprises:

means for accessing the relational database to retrieve the plurality of sets of configuration parameters.

49. A computer program product, comprising:

a computer-readable medium; and

computer-readable signals stored on the computer-readable medium that define instructions that, as a result of being executed by a computer, instruct the computer to perform a process of assigning values to one or more configuration parameters of a first entity associated with a communications network wherein the entity is a member of a hierarchy of entity groups, the communications network comprising a computer-readable medium, the process comprising acts of:

(a) retrieving from the computer-readable medium a plurality of sets of configuration parameters for configuring a network device of the communications network, wherein each set corresponds to either the entity or one of the entity groups, and wherein for each set, for one or more configuration parameters, the set defines a value for the configuration parameter; and

(b) combining the plurality of sets of configuration parameters to produce an entity profile for the first entity, wherein the entity profile comprises one or more configuration parameters and comprises, for each parameter, a corresponding value assigned from one of the plurality of sets of configuration parameters.

50. The computer program product of claim 49, wherein the process further comprises an act of:

(c) configuring the network device of the communications network using the entity

profile.

51. The computer program product of claim 49, wherein the act of combining comprises:
for each of the one or more configuration parameters, assigning a value from one of
the plurality of configuration sets to the configuration parameter.

52. The computer program product of claim 49, wherein the hierarchy is an administrative
hierarchy, and each entity group is a group of administrative entities.

53. The computer program product of claim 49, wherein the hierarchy is a network device
hierarchy, and each entity group is a group of network devices.

54. The computer program product of claim 49, wherein the hierarchy is a network user
hierarchy, and each entity group is a group of network users.

55. The computer program product of claim 49, wherein a first combining procedure is
accessible on the communications network, the first combining procedure defining a
procedure by which to combine the plurality of sets of configuration parameters, and wherein
act (b) further comprises:

combining the plurality of sets of configuration parameters in accordance with the
combining procedure.

56. The computer program product of claim 55, wherein a plurality of combining
procedures, comprising the first combining procedure, are available on the communications
network, and the process further comprises an act of:

(c) selecting the first combining procedure from the plurality of combining
procedures.

57. The computer program product of claim 55, wherein the first combining procedure
specifies one or more of the entity groups for which corresponding sets of configuration
parameters are not to be combined as part of act (b), wherein act (b) further comprises:

refraining from combining one or more sets of configuration parameters, each of the
one or more sets corresponding to one of the entity groups specified by the first combining

procedure.

58. The computer program product of claim 55, wherein a first of the plurality of sets of configuration parameters corresponds to a highest entity group of the hierarchy, and wherein act (b) comprises:

combining the plurality of sets of configuration parameters in accordance with the hierarchy, starting with the first set of configuration parameters.

59. The computer program product of claim 49, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being a final value for the first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

accessing the first set of configuration parameters;

assigning the first value to the first configuration parameter and marking the first value as a final value for the first configuration parameter;

accessing the second set of configuration parameters; and

refraining from assigning the second value to the first configuration parameter in response to the first value being marked as the final value for the first configuration parameter.

60. The computer program product of claim 49, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being aggregable, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

accessing the first set of configuration parameters;

assigning the first value to the first configuration parameter and marking the first value as aggregable;

accessing the second set of configuration parameters; and

in response to the first value being marked as aggregable, aggregating the second value to the first value to produce an aggregated value and assigning the aggregated value to

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the first configuration parameter.

61. The computer program product of claim 49, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter, and a second of the plurality of sets of configuration parameters defines a second value for the first configuration parameter, wherein act (b) comprises:

- accessing the first set of configuration parameters;
- assigning the first value to the first configuration parameter;
- accessing the second set of configuration parameters; and
- overriding the first value by assigning the second value to the first configuration

parameter.

62. The computer program product of claim 49, wherein the entity is a telephony communications device that is part of the communications network.

63. The computer program product of claim 49, wherein the entity is a user of a network device that is part of the communications network.

64. The computer program product of claim 49, wherein the plurality of sets of configuration parameters are stored in a relational database on the computer-readable medium, and act (a) comprises:

accessing the relational database to retrieve the plurality of sets of configuration parameters.

65. A digital information product, comprising:

a computer-readable medium; and

first signals tangibly-embodied on the computer-readable medium, the signals defining, for an entity associated with a communications network and that belongs to one or more entity groups of a hierarchy of entity groups, a plurality of sets of configuration parameters for configuring a network device of the communications network, wherein each set corresponds to either the entity or one of the entity groups and, for each set, for one or more configuration parameters, the set defines a value for the configuration parameter.

66. The digital information product of claim 65, wherein at least two of the plurality of sets of configuration parameters define a value for a same configuration parameter.

67. The digital information product of claim 65, wherein the hierarchy is an administrative hierarchy, and each entity group is a group of administrative entities.

68. The digital information product of claim 65, wherein the hierarchy is a network device hierarchy, and each entity group is a group of network devices.

69. The digital information product of claim 65, wherein the hierarchy is a network user hierarchy, and each entity group is a group of network users.

70. The digital information product of claim 65, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being a final value for the first configuration parameter such that the first value cannot be overridden by another value defined for the first parameter by another set of configuration parameters.

71. The digital information product of claim 65, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter and defines the first value as being aggregable such that the first value can be aggregated with another value defined for the first parameter by another set of configuration parameters.

72. The digital information product of claim 65, wherein a first of the plurality of sets of configuration parameters defines a first value for a first configuration parameter such that the first value can be overridden by another value defined for the first parameter by another set of configuration parameters.

73. The digital information product of claim 65, wherein the entity is a telephony communications device that is part of the communications network.

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75. The digital information product of claim 65, wherein the plurality of sets of configuration parameters are stored in a relational database on the computer-readable medium.